AASHTO 2019 GIS for Transportation Symposium

Integrating Geo-situational Awareness with MS Dynamics for Customer Service

Trent Park GISP
SVP Solutions

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Customer Service Center

Agenda

- Project Background
- Solution Description
- Results & Lessons Learned
- Discussion
About GeoDecisions®

- Leader in transportation GIS solutions
- Application of geospatial data sciences
- Founded in 1986 in State College, PA
- Esri® Platinum Partner
- More than 130 employees
- ISO 9001:2015
Project Background – VDOT Customer Service Center

• Located in Salem, Virginia
• Staffed 24x7x365
• Supports 3rd largest state DOT
• 200,000 contacts annually
• 120,000 service requests annually

A few of the many people taking calls on snow removal. Our Customer Service Center is working 24/7: 1-800-FOR-ROAD.
Project Background - Initiative

To replace and modernize the technology in VDOT’s customer service center.

This included new software for:
• contact management
• customer relationship management
• citizen self-service
• replacement or upgrade of all network and hardware.
Project Background – Desired End-State

- Integrated multi-channel communication
  - Telephone, email, text, web chat, mobile “self serve”

- Automatic routing of Service Requests to ~350 separate work groups across VDOT

- Commercial off-the-shelf solution
Solution Description - Maps and CRMs

Roadmap – Esri Maps for Salesforce

- Q2 2014
  Esri Maps for Salesforce (Web)
  • Beta
- Q3 2014
  Esri Maps for Salesforce (Mobile)
- Q3 2014
  Esri Maps for Salesforce (Web)
  • v.1
- Q4 2014
  v.Next
The Esri Maps for Salesforce and Esri Maps Mobile for Salesforce are now retired. They are no longer available for download.
Solution Description - Overview

The Solution

SingleStone helped expand and enhance service capabilities by:

- Integrating multi-channel options
- Implementing enriched caller-recognition and customer relationship management features

https://vimeo.com/183661140
Solution Description – Homepage/Dashboard

CSC - Dashboard

CSC Charts

Top 10 Problem Types
Service Requests (last 30 days):

Service Requests By Type
Service Requests (last 30 days):

Service Request By District and Status
Service Requests (last 30 days):

what's new

Enter post here

Map

Enter Search Here
Solution Description – New Service Request

Agent Created - Test McTesterson

- Location: I-95N approx milepoint 90.62 [RNS]
  - VDOT Route: I-95N
  - Mile from: 90.62
  - Mile To: 90.62

Customer Information
- First Name: Test
- Last Name: McTesterson
- Customer Type: Citizen
- Phone 1: (804) 555-111
- Phone 2: (804) 555-222
- Email: test@test.com

Service Request History
- ID: 117463
  - Date: 11/01/18 3:32p
  - Problem: Pothole
- ID: 117462
  - Date: 11/01/18 3:32p
  - Problem: Pothole
- ID: 116775
  - Date: 3/14/18 6:07p
  - Problem: Dead Animal
- ID: 116773
  - Date: 3/14/18 4:48p
  - Problem: Dead Animal
- ID: 116762
  - Date: 2/28/18 3:44p
  - Problem: Pothole

Contact History
- Channel: Email-Out
  - Date: 2/18/18 2:57p
  - Reason: VDOT Service Request #1167
Solution Description – Homepage/Dashboard

Map

Enter Search Here

[Map Image]

[Map Image]
Solution Description – 511 Feed
Solution Description – Aerial
Solution Description – Google Traffic
Solution Description – StreetView

CSC LOG: STANDARD
Agent Created - Test McTesterson

What a beautiful day!

Enter Search Here

Google Roads

Zoom In
Zoom Out

Street View

VOOT Route: I-95N
Mile From: 90.62
Mile To: 90.62

Location

Jurisdiction
Hanover

Density
Richmond

Residential
Ashland

Commercial
Ashland

TOC
Richmond

SMAC
TAMS Richmond North

Customer Information

First Name

Last Name

Customer Type

Citizen

Phone 1 (Req)

111

Phone 2

111

Email

test@test.com

Disposition

Service Request (New)

Internal Notes

Service Request History

ID

Date

Problem

117463

11/01/18 3:02p

Pothole

117462

11/01/18 3:12p

AAH Bag Pick Up

116775

3/14/18 8:00p

Dead Animal

116762

3/14/18 8:44p

Pothole

116762

2/28/18 3:44p

Contact History

Channel

Date

Reason

Voice

2/14/18 2:57p

VOOT Service Request #1167

Gannett Fleming, Inc.
Solution Description – Map Data Other Data
Solution Description – Searching and Geocoding

• Hybrid Geocoder in Search bar
• Prioritizes location services (VDOT LRS, Esri, Google, Bing)
• Parses and presumes certain parameters
Solution Description – Mapping Integration

• Esri ArcGIS Javascript map
• Uncoupled from MS Dynamics (or any other CRM)
• Standards compliant protocols in any browser (iFrame or separate browser)

“When the map is open and being interacted with, it is able to determine if it is "context" of a Dynamics workflow and respond accordingly. If it is not, it acts as a standalone map.”
Solution Description – Map APIs

One of the unique aspects of the CSC map is that it embeds a fully functional Google Maps API instance (traffic, streetview, places, etc.) within an Esri ArcGIS Javascript API instance.

Google functionality was a core requirement in the project and this implementation allows a full Google API instance to load without violating Google terms of usage.

Essentially, the Google API map interaction events are disabled and, instead, the parent map (ArcGIS JS API) propagates events into the Google map and thus they behave in a synchronized manner.
Results

Residencies
Rules engine routing of work orders saved 16,900 man hours annually and reduced work turn time by 1 day.

Call Center
Contact volume increased (~1,400 monthly), however, contact for purpose of checking status decreased (by ~1,100 calls monthly) resulting in ~1,400 man hours savings annually

Virginia Citizens
More convenient options to contact and automated follow-up of status
Lessons Learned

Esri, Google, Bing – Marketing dilemma

Google - API

MS Dynamics - stability
MS Dynamics Workflows
Solution Description – Diagram
Additional Capabilities